

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) an optical network, a method for providing differentiated services for a plurality of WDM layer applications, comprising:

~~Providing communication over said optical network for transmitting user traffic along a communication path; and~~

~~Controlling execution of each said WDM layer applications supporting said communication path according to a class of service (CoS)~~

transmitting user traffic over a range of wavelengths along a communication path in an optical network;

connecting network elements along the communication path via an optical supervisory channel, the supervisory channel being transmitted at a wavelength different than the range of wavelengths being used to transmit the user traffic;

transmitting control data for supporting a class of service (CoS) over the supervisory channel to each respective network elements; and

executing a WDM layer application at each of the network elements to operate the network element according to the control data.

2. cancelled.

3. (currently amended) A method as claimed in claim 2 1, wherein said control data provide one or more operating parameters of said WDM layer application.

4. (original) A method as claimed in claim 3, wherein said operating parameter is the internal priority level associated with said WDM layer application.

5. (original) A method as claimed in claim 3, wherein said operating parameter is the latency level for said WDM layer application.

6. (original) A method as claimed in claim 3, wherein said operating parameter is the acceptable loss level for said WDM layer application.

7. (original) A method as claimed in claim 3, wherein said operating parameter is the bandwidth for said WDM layer application.

8. (original) A method as claimed in claim 1, wherein said WDM layer application is one or more application selected from the network internal applications including: laser safety shutdown, distributed internode control loops, out-of-band signalling channel, alarms, warnings, provision/configuration request, performance monitoring control, orderwire, and remote software download.

9. – 10. canceled.

11. (currently amended) A method as claimed in claim 2 1, wherein said control data comprises protocol data units (PDU) transported over said supervisory network.

12. (original) A method as claimed in claim 11, wherein said step of transmitting control data comprises:

at a first network element,

a) generating an add supervisory PDU comprising QoS information destined to said WDM layer application operating at a second network element;

b) providing said add supervisory PDU with an identification tag; and

c) transmitting said add supervisory PDU over said supervisory network.

13. (original) A method as claimed in claim 12, wherein step of (c) comprises:

forwarding said add supervisory PDU to an appropriate output port queue; - queuing said add supervisory PDU according to said QoS information; and

routing a plurality of said add supervisory PDU from different queues over said supervisory network according to said CoS.

14. (original) A method as claimed in claim 11, wherein said step of transmitting control data comprises:

at a first network element,

a) receiving a drop supervisory PDU comprising QoS information;

b) determining from an identification tag that said drop supervisory PDU is destined to said first network element;

c) extracting said QoS information from said drop supervisory PDU;

and

d) executing said WDM layer application according to said QoS information.

15. (original) A method as claimed in claim 11, wherein said step of transmitting control data comprises:

at a first network element,

- a) receiving a continue supervisory PDU comprising QoS information;
- b) determining from an identification tag that said supervisory PDU is destined to a second network element of said communication path; and
- c) transmitting said supervisory PDU over said supervisory network.

16. (original) A method as claimed in claim 15, wherein step (c) comprises:

extracting said QoS information from said continue supervisory PDU;
forwarding said continue supervisory PDU to an appropriate output port queue;
queuing said continue supervisory PDU according to said QoS information;
and
transmitting a plurality of said continue supervisory PDU from different queues according to said Cos.

17. (currently amended) A method for providing differentiated services for internal applications of a DWDM transmission network, comprising:

providing communication between a source node and a destination node over a plurality of intermediate nodes for transmitting user traffic along a communication path; at said source node,

transmitting QoS information over an optical supervisory channel of a supervisory network connecting said source and destination nodes over said plurality of intermediate nodes, the supervisory channel being transmitted at a wavelength different than a range of wavelengths being used to transmit the user traffic; and

controlling operation of all said intermediate nodes and said destination node according to said QoS information.

18. (currently amended) A method for providing differentiated services for internal applications of a DWDM transmission network, comprising:

providing communication between a source node and a destination node over a plurality of intermediate nodes for transmitting user traffic;

connecting said source node and said destination node over an optical supervisory channel of a supervisory network, the supervisory channel being transmitted at a wavelength different than a range of wavelengths being used to transmit user traffic ~~including said plurality of intermediate nodes;~~ and

controlling operation of all said intermediate nodes and said destination node according to a preset CoS.

19. (original) A method as claimed in claim 18, wherein said supervisory network operates over one or more optical supervisory channels provided between any two adjacent nodes of said network.

20. (original) A method as claimed in claim 18, wherein said supervisory network is an ATM network and said source, destination, and intermediate nodes comprise an ATM switch.

21. (original) A method as claimed in claim 18, wherein said transmission network is an IP/TCP network and said source, destination, and intermediate nodes comprise IP routers.

22. (original) A method as claimed in claim 18, wherein said transmission network is an IP network and said source, destination, and intermediate nodes comprise a DiffServ enabled IP router.

23. (original) A method as claimed in claim 18, further comprising classifying said internal applications according to one of the extremely low, low, medium, high latency level.

24. (original) A method as claimed in claim 18, further comprising classifying said internal applications according to one of the extremely low, low, medium, high loss level.

25. (original) A method as claimed in claim 18, further comprising classifying said internal applications according to one of the low, medium, high bandwidth level.

26. (original) A method as claimed in claim 18, further comprising classifying said internal applications according to one of the low, medium, high priority level.

27. (original) A method as claimed in claim 18, wherein said preset CoS provides operating parameters for a plurality of inter-node control loops.

28. (original) A method as claimed in claim 18, wherein said preset CoS includes a plurality of QoS instructions.

29. (original) A method as claimed in claim 28, wherein said QoS instructions include latency and loss.

30. (original) A method as claimed in claim 29, herein said QoS instructions further include application priority.

31. (original) A method as claimed in claim 18, further comprising transmitting information 5 over said supervisory network.

32. (original) A method as claimed in claim 30, wherein said information is a signalling traffic.

33. (original) A method as claimed in claim 30, wherein said information is a user traffic.

34. – 35 (cancelled).

REMARKS